an internal structure of the laser head 11 of the harmonic-generating Q switch laser device shown in Fig. 7. The head 11 comprises a reflecting mirror 21, a Q switch element 42, a gain medium 23, an output mirror 24, a condenser lens 25, a nonlinear optical crystal 26, an optical lens 27, a narrow band filter or dichroic mirror 28, and two lenses 25 and 27. The lenses 25, 27 function as a collimator. The device where the nonlinear optical crystal 26 is disposed outside of the mirrors 21, 24 is called an extra cavity system.

Cont.

The optical operation of this harmonic-generating Q switch laser head will be explained with referring to Fig. 13. When an excitation light enters the gain medium 23, an optical resonation occurs between the reflector mirror 21 and output mirror 24. In this case, when the Q switch element 42 inserted between the mirrors 21 and 24 is turned on, the optical path opens, and the laser oscillates. When the element is turned off, the optical path closes, and the oscillation stops. Thus, a pulse laser oscillation is enabled. The Q switch element 42 is turned on and off by the RF driver 14 for the Q switch, and enables the Q switch laser head to pulse-oscillate. The laser light issued from the output mirror 24

is condensed by the condenser lens 25, and emitted to the nonlinear optical crystal 26. A harmonic laser is generated by the nonlinear optical crystal 26, is collimated by the optical lens 27, and is separated into an IR laser, a fundamental wave and harmonic laser by the narrow band filter or dichroic mirror 28. The harmonic laser is used for a processing machine.

a' cont.

Page 7, replace second full paragraph with the following:

a2

Fig. 5 shows a configuration of a laser head of a harmonic-generating Q switch laser device according to the embodiments.

Page 7, replace fifth full paragraph with the following:

a3

Fig. 8 shows a configuration of a laser head of the harmonic-generating Q switch laser device according to the first embodiment.

Page 7, insert a new paragraph after line 20 as follows:

Q4

Fig. 13 shows the conventional harmonic-generating Q switch laser device.

Page 7, replace paragraphs beginning at line 24 with the following:

NE

Fig. 8 shows a harmonic-generating Q switch laser device of a first exemplary embodiment. An operation of the laser device will be explained with referring to Fig. 1.

Page 8, replace second full paragraph with the following two paragraphs:

As shown in Fig. 1, during a first pause period T1 before an oscillation of a harmonic laser, the Q switch which is turned on sets the device to a continuous oscillation mode for oscillating the laser continuously. During a specified second pause period T2A before a harmonic laser pulse is generated, the Q switch which is turned off makes a laser power be accumulated in the laser medium irradiated with an excitation light. The second pause period T2A

Q5

is equal to a duration determined through extracting a pulse width TW from a pulse period T0 of the laser pulse train (T2A=T0-TW). The pulse width TW is so small to be negligible for the pulse period T0, and hence the pause period T2A substantially coincides nearly with the pulse period T0.

Q5 cont.

The second pause period T2A is equal to the duration of a pulse period T0 of the laser pulse train extracted by a pulse width TW, i.e., T2A=T0-TW. In other words, the second pause period T2A is equal to a duration determined through extracting a pulse width TW from a pulse period T0 of the laser pulse train.

IN THE CLAIMS:

Please amend claims 1-3, 5-7, 9-24, 26-32 and 34-36 as follows:

Q6

1. (Amended) A laser device for generating a laser pulse train formed of a sequence of laser pulses, comprising:

an output mirror;

a reflector mirror;